

Fascia lata autograft for orbital floor reconstruction

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Summary

Enophthalmos and diplopia are two major complications that result from a downward displacement of the eyeball. A case in which a fascia lata autograft was used to prevent these complications is presented. When covered by a flap with rich blood supply, this autograft can be used as a good substitute for alloplastic materials.

Keywords: *Reconstruction, Orbit, Autograft*

Résumé

L'enophtalmie et la diplopie sont deux complications majeures qui résultent d'un déplacement vers le bas du globe oculaire. Un cas dans lequel une autogreffe fascia lata a été utilisée pour prévenir ces complications est présenté. Quand il est couvert par un lambeau avec un approvisionnement riche en eau, cette autogreffe peut être utilisée comme un bon substitut aux matériels alloplastiques.

Introduction

Reconstruction of defects of orbital floor has been advocated by many authors^{1,2}. The main aim is prevention of enophthalmos and diplopia. Previously, several materials have been used both to reconstruct defects of orbital floor, and to support orbital contents. Such include autografts and allografts. The disadvantage of autografts is the additional exposure required to obtain the graft.

Allografts are popular especially in the Western world because of availability of materials without need for additional operative exposure. Those in use include absorbables like gelfilm³ and poly L-lactide⁴; and non absorbables like marlex mesh³ and hydroxyapatite blocks⁵.

In developing countries, where these materials are not readily available, resort to the use of autografts become a necessity. Since there are only few reports of the use of autografts after tumour excision^{6,7} a case in which an orbital floor defect created after radical excision of an extensive parotid tumour was repaired with a fascia lata autograft is reported.

Case report

R.M. UCH number 869070, was a 60 year old lady referred to Plastic Surgery unit with a third recurrence of parotid tumour which involved apart from her left cheek, the left lower eyelid, nose bridge and alae, upper and lower lips on the left side along with the left oral commissure. She had an incomplete left facial nerve palsy, the mandibular branch only being spared. She had three previous surgeries, the first in 1985, being a mixed parotid tumour with benign and malignant phases.

The tumour was excised on 31st March 1993. Operative finding was that of a huge nodular vascular and friable parotid tumour which had infiltrated ipsilateral maxillary antrum, lateral third of hard palate, left pterygopalatine fossa, two thirds of left orbital floor, anterior cranial fossa and the cribriform plate. After radical excision, the orbital floor was repaired with a fascia lata autograft, 3 x 4cm., obtained from the lateral aspect of her left thigh.

A pedicled left pectoralis major musculocutaneous flap was used to partially fill and cover the maxillary antrum, the cutaneous island being used for cheek mucosal lining. The muscle was covered with a split skin graft. The area was irradiated with 40Gy of deep X-ray therapy in 12 doses spaced over four weeks postoperatively. Radiation beam from 1.25 megavoltage cobalt machine was delivered through anterior left facial and left lateral fascial wedged fields. Three months postoperatively, the patient had neither residual enophthalmos nor diplopia. She has however been seen for follow up since then.

Discussion

Enophthalmos and diplopia are the two major findings that result from a downward displacement of the eyeball consequent upon orbital floor fracture, weakness, or defect. While enophthalmos is due to atrophy of orbital fat, loss of support of orbital structures and direct damage to the globe, diplopia is caused by entrapment of inferior rectus or sometimes of inferior oblique muscle, when the globe is displaced downward. Enophthalmos when appreciable, results in pseudoptosis of upper eyelid, deepening of supratarsal fold, and shortening of the horizontal dimension of the palpebral fissure¹.

To prevent these complications, the surgeon should

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anticipate a drop of the globe through a defect created by tumour excision as in this case. The defect should therefore be repaired. Availability of several alloplastic materials make an extra exposure unnecessary. Complications that have been reported with use of such include extrusion and migration of implant⁶, residual diplopia, infection of implant and of the antrum. The absorbable implant may be reabsorbed before adequate formation of scar and bony tissue⁴.

Transfer of anterior wall of atrum as well as use of perpendicular plate of ethmoid removed by submucous resection¹ combines the advantages of an autograft with the fact that no extra exposure is required after excision. Laxenaire *et al*⁶ suggested the use of concha for defects less than 1.5cm² and autologous parietal bone graft for larger defects. Iliac bone and rib grafts provide rigidity and can be utilised for large defects. Fascia lata combines the property of rigidity with ease of harvesting. In addition, transferring a flap rich in blood supply reduces the chances of necrosis and infection.

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